

CC: G. O. Clifford
W. H. Davis
H. K. Faulkner
A. D. Gordon
R. W. Hughes
E. B. Wallin

Ilion, New York
June 27, 1949

TO:	S. M. Alvis	E. E. Folmsbee	R. W. Selwood
	W. A. Best	D. E. Foote	A. Travostino
	L. J. Boyle	E. C. Hitchcock	M. H. Walker
	E. R. Carr	W. E. Leek	R. A. Williamson
	K. R. Chadwick	J. W. Miller	
	P. H. Eccleston	E. Sapp	
	S. W. Fisher	E. A. Streed	

FROM: E. K. Wheat

SUBJECT: CENTER FIRE RIFLE ACCURACY MEETING

PURPOSE:

To report progress and discuss future program.

CONCLUSIONS:

1. The barrel reaming operation on 30-06 barrels (M/721) has been somewhat erratic in the present production run, but is now in control. Resultant bores through rifling have been very excellent, attained by screening out of tolerance barrels from reaming.

2. The .257 cal. reaming specifications caused considerable trouble in securing desirable bores. This condition necessitated reducing the ream size .002". Approximately one half of the short production run were processed to the ideal specifications, however, none of the barrels processed were over drawing specs. (.250-.252)

3. The results of spot checking the drill operation were satisfactory.

4. Targeting results on the 30-06 reflect an increase of 24% in the 2" or less group size based on data of 1/13/49 to 6/16/49. (See attached chart I & II)

5. Standardization of the number of grooves for the M/S1 and 141 is desirable to facilitate measuring bore and rifling. Improvement in accuracy can be expected when measurable factors are controlled.

6. Rear sight improvement is still desirable and is being studied by Process Engineering.

7. A targeting audit plan is desirable to standardize methods, use of ammunition and guns for maintaining consistent results.

8. The upset hub diameter on the barrel blanks is causing considerable trouble at the rifling operation if the hubs aren't turned and concentric. (Per the .257 Cal. pilot run)

CENTER FIRE RIFLE ACCURACY MEETING

June 23, 1949

DATA REPORTEDReject Inspection - W/721-722

	<u>30-06</u>	<u>.270</u>
5/6 to 6/17	104	
3/6 to 6/17		38
Total	142	

Chamber and Re-target

102 O.K. (2 oversize bore)
38 O.K.

Targeted 6557
% Rejected 2.16
% Scrap .03

Swinger Rejects - W/721-722

	Targeted	More Spotted	Swingers	Repaired on Hand
*5/16 to 6/17	5542	4193 (80%)	*197 (3%)	137 (Not Bent) 60
Nov. 30, 1948 (10 days)	1800		619	619 Bending Oper.

*No guns have been bent or straightened during this period.

Reramp and Repair Barrels in Process

Re-Inspection	30-06	300 Mag.	.270	.251	
	110	24	43	1	
Scrap	23	0	4	0	Total 27

FUTURE PROGRAM

1. Barrel studies for remaining calibers:

- .257 Pilot Lot - E. K. Wheat and R. Salmond - Process and Accuracy
- .222 Pilot Lot - M. H. Walker and R. Salmond - Process and Accuracy
- .270 Production - E. K. Wheat and R. Salmond - Redneck for bore sizing
- 35 Cal. in W/141 and 81 - E. K. Wheat - To be initiated when groove change is made and gaging equipment is available.

- Targeting Audit Plan - Sub-committee:

W.A. Best	M.H. Walker
S.F. Fisher	E.K. Wheat
P.L. Teelstra	W.E. Cook
E.J. Hickman	
- Gun and ammunition standardization

- 4 -

CENTER FIRE RIFLE ACCURACY MEETING

June 23, 1949

b. Gun Audits

1. Regular Production - Special Calibers .257 and .222
2. Quality Audit guns - A. D. Gordon -
Set up standard test.

3. Bore Spotting

- a. Move to Assembly - R. W. Williamson and P. H. Eccleston
- b. Review inclusion of Models 81 and 141 - P. H. Eccleston

4. Rear Sight Improvement

- a. Process New Design - E. Sapp
- b. Present Design Process - R. Carr

5. Model 81 and 141 Rifling Standardisation

- a. Groove change 7 to 6 - D. S. Foote
- b. Process review and change - E. Sapp
- c. Procurement of air gage equipment - E. Sapp
(Can be fabricated by Model Shop on the work order from the Plant)
- d. Preliminary study of bore and groove requirements - E. K. Wheat


E. K. Wheat
Engineering Unit
Arms Technical Division

HKW:EL